

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims

1-14. (Canceled)

15. (New) A method for access control in a multicast system in which data is sent from a source over a common link to an arbiter node associated with a plurality of users, wherein the arbiter node distributes the data to at least two users, the method comprising the steps of:

assigning a weight to each user associated with the arbiter node, wherein the weights indicate a percentage of the available bandwidth on the common link each user is provisionally allowed to use;

receiving at the arbiter node, a request to join a new multicast session from a first user;

determining by the arbiter node, an actual bandwidth that the first user would utilize if the request to join the new multicast session is granted, wherein the actual bandwidth for the first user is calculated as the sum of the first user's bandwidth part of each currently ongoing session in which the first user is a participant plus the first user's bandwidth part of the new multicast session, wherein the first user's bandwidth part of any given session is calculated as the bandwidth required for the given session divided by the total number of users participating in the given session;

determining by the arbiter node, an allowed bandwidth for the first user, wherein the allowed bandwidth for the first user is calculated as the available bandwidth on the common link multiplied by the weight assigned to the first user;

comparing by the arbiter node, the actual bandwidth for the first user with the allowed bandwidth for the first user;

granting the request when the actual bandwidth for the first user is less than or equal to the allowed bandwidth for the first user; and

denying the request when the actual bandwidth for the first user is greater than the allowed bandwidth for the first user.

16. (New) The method according to claim 15, further comprising the steps of:

determining that the first user previously used the new multicast session within a previous predefined period of time;

temporarily increasing the weight assigned to the first user;

determining by the arbiter node, a new allowed bandwidth for the first user by multiplying the available bandwidth on the common link by the increased weight assigned to the first user; and

granting or denying the request based on the new allowed bandwidth for the first user.

17. (New) The method according to claim 16, further comprising, prior to increasing the weight assigned to the first user, the step of determining that the first user used the new multicast session for a period of time that exceeds a predetermined guarantee time.

18. (New) The method according to claim 16, further comprising the steps of:

detecting that the first user has left the requested multicast session; and

in response, reducing the weight assigned to the first user to the weight's original value.

19. (New) An arrangement in an arbiter node for controlling access in a multicast system in which data is sent from a source over a common link to the arbiter node, wherein the arbiter node distributes the data to at least two users associated with the arbiter node, the arrangement comprising:

means for assigning a weight to each user associated with the arbiter node, wherein the weights indicate a percentage of the available bandwidth on the common link each user is provisionally allowed to use;

communication means for receiving a request to join a new multicast session from a first user;

means for determining an actual bandwidth that the first user would utilize if the request to join the new multicast session is granted, wherein the actual bandwidth for the first user is calculated as the sum of the first user's bandwidth part of each currently ongoing session in which the first user is a participant plus the first user's bandwidth part of the new multicast session, wherein the first user's bandwidth part of any given session is calculated as the bandwidth required for the given session divided by the total number of users participating in the given session;

means for determining an allowed bandwidth for the first user, wherein the allowed bandwidth for the first user is calculated as the available bandwidth on the common link multiplied by the weight assigned to the first user;

means for comparing the actual bandwidth for the first user with the allowed bandwidth for the first user;

means for granting the request when the actual bandwidth for the first user is less than or equal to the allowed bandwidth for the first user; and

means for denying the request when the actual bandwidth for the first user is greater than the allowed bandwidth for the first user.

20. (New) The arrangement according to claim 19, further comprising:

means for determining that the first user previously used the new multicast session within a previous predefined period of time;

means for temporarily increasing the weight assigned to the first user;

means for determining a new allowed bandwidth for the first user by multiplying the available bandwidth on the common link by the increased weight assigned to the first user; and

wherein the request is granted or denied based on the new allowed bandwidth for the first user.

21. (New) The arrangement according to claim 20, wherein the means for temporarily increasing the weight assigned to the first user increases the weight only if the first user used the new multicast session for a period of time that exceeds a predetermined guarantee time.

22. (New) The arrangement according to claim 20, further comprising:
means for detecting that the first user has left the requested multicast session;
and

means for reducing the weight assigned to the first user to the weight's original value in response to detecting that the first user has left the requested multicast session.